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BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In Re: Petition for Determination of Need for an Electrical Power Plant in Okeechobee County by Okeechobee Generating Company, L.L.C.	DOCKET NO. 991462-EU FILED: Oct. 25, 1999

DIRECT TESTIMONY

OF

GEORGE A. LEHNER

ON BEHALF OF

OKEECHOBEE GENERATING COMPANY, L.L.C.

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DIRECT TESTIMONY OF GEORGE A. LEHNER

Q: Please state your name and business address.

A: My name is George A. Lehner and my business address is 7500 Old Georgetown Road, Bethesda, Maryland.

Q: By whom are you employed and in what position?

A: I am employed by PG&E Generating as Director of Operations - Northeast.

QUALIFICATIONS AND EXPERIENCE

Q: Please summarize your educational background and experience.

A: I have a Bachelor of Science degree from Colorado State University in Industrial Construction Management and a Masters of Business Administration degree from the University of Massachusetts. I have 29 years of experience in the power generation field. I have experience in construction of dual-fueled (gas and oil) combined cycle, coal, oil, and nuclear-fueled power plant projects, and operation and maintenance experience in dual-fueled combined cycle and coal power plants.

Q: What is your experience in power plant engineering, construction, operations, permitting, and licensing?

A: I have 29 years of experience in the power industry working as a field civil engineer, field civil design engineer, field cost engineer, manager of costs, budgets and schedules, manager of construction, manager of civil engineering and construction, plant general manager, and regional director of operations for dual-fueled combined cycle plants. My overall experience includes work associated with coal, oil, nuclear, and dual-fueled combined cycle plants, and high voltage transmission systems. I have been involved in the permitting and licensing process of generation and transmission projects by providing the necessary support to personnel responsible for acquiring project permits and other legal instruments.

Q: Have you previously testified before regulatory authorities or courts?

A: Yes. I have testified before the Colorado Public Utilities Commission in rate cases on behalf of Colorado Ute Electric Association, Inc. I have also testified by deposition in litigation in U.S. District Court in Denver, Colorado, as manager of construction in cases involving construction claims, again on behalf of Colorado Ute Electric Association, Inc.

DIRECT TESTIMONY OF GEORGE A. LEHNER

SUMMARY AND PURPOSE OF TESTIMONY

Q: What is the purpose of your testimony?

A: I am testifying on behalf of Okeechobee Generating Company, L.L.C. ("OGC"), the applicant for the Commission's determination of need for the Okeechobee Generating Project ("the Project"). My testimony generally describes the main design features of the Project, as well as the Project's operational reliability and flexibility.

Q: What are your responsibilities with respect to the Okeechobee Generating Project that is the subject of this proceeding?

A: My responsibility is to provide planning and support with respect to operations and maintenance issues for: (1) the preparation of permit and license applications for the Project; (2) engineering, construction and operational agreements for the Project; (3) plant design; (4) equipment selection; and (5) plant startup and mobilization of the plant's O&M staff.

Q: Please summarize your testimony.

A: The Okeechobee Generating Project will be a highly reliable power generation facility, with an average annual availability factor of approximately 93 percent. The

operations and maintenance plan for the Project will be in accordance with the equipment manufacturer's recommended maintenance schedules, resulting in annual availability factors ranging from 90 percent in years when major maintenance is required to 95 percent in years when minimal maintenance is required. With its design incorporating two separate power trains capable of being operated independently of each other, the Project will be especially reliable and flexible.

Q: Are you sponsoring any exhibits to your testimony?

A: Yes, I am sponsoring the following exhibit to my testimony: Exhibit No. ____ (GAL-1): Resume of George A. Lehner.

I am also sponsoring the section titled Operations and Maintenance Plan on pages 41-43 of the Exhibits filed with the petition for determination of need for the Okeechobee Generating Project.

OPERATIONAL RELIABILITY

Q: Please summarize the operational reliability of the Okeechobee Generating Project.

A: The Okeechobee Generating Project will be constructed with state-of-the-art combustion turbines (ABB GT24 or equivalent) and consist of two combustion turbine generators ("CTs" or "CTGs"), two steam turbine generators

("STGs"), and two heat recovery steam generators ("HRSGs"). This equipment is expected to have a high degree of reliability similar to other comparable manufacturers' equipment.

Reliability is often measured in terms of the percentage of hours a unit is available to produce electricity within a specified period of time, usually one year. For example, the ABB GT24 combustion turbines are expected to achieve annual availability factors ranging from approximately 90 percent to 95 percent, with a long-run average annual availability factor of 93 percent. This factor will vary depending on the planned maintenance activities in a given year, the forced outage rate, the need to take the CTGs off-line to clean compressor blades, and the need to perform occasional minor maintenance.

Q: What are the expected forced outage rate, maintenance outage rate, and availability factor for the Okeechobee Generating Project?

A: The forced outage rate will be expected to average approximately two percent per year. However, in the first two years the rate is expected to be a little higher due to the time it will take to complete and finalize system checks and fine-tune the equipment.

The planned maintenance outage rate is expected to

average five percent per year, but the actual rate will vary from year to year in accordance with the vendor's recommended maintenance cycle on the turbines. The ABB combustion turbines are on a 6,000-hour maintenance cycle. A minor inspection, referred to as a Type A Inspection, will be conducted at the end of 6,000 hours of operation. A slightly more detailed inspection, referred to as a Type B Inspection, will be conducted at the end of 12,000 hours of operation. Another Type A Inspection will be conducted at 18,000 hours, and a major inspection, referred to as a Type C Inspection, will be conducted at 24,000 hours of operation. This cycle will be repeated for the life of the equipment. Type A and B inspections can take from approximately four to seven days and a Type C inspection can take up to thirty days. Thus, the annual availability factor for the Okeechobee Generating Project will vary depending on the planned maintenance activities in any given year, the forced outage rate discussed above, the need to periodically take the CTGs off-line to clean compressor blades, and the occasional need to perform other minor maintenance.

The Project's equivalent availability factor is expected to range from 90 to 95 percent, with a long-term average of 93 percent.

Q: Who will operate the Okeechobee Generating Project?

A: PG&E Operating Services Company will have the responsibility for operating and maintaining the Project pursuant to a management contract with OGC.

Q: Please describe any special design features or other considerations that are relevant to the Okeechobee Generating Project's operational reliability.

A: The Okeechobee Generating Project will be constructed with the most current combustion turbine design commercially available. The building configuration and balance of plant equipment will be typical of designs used throughout the industry for combined cycle plants. Use of standard equipment offers the highest possible reliability.

The Project will have two independent "power trains." Each power train will consist of one combustion turbine generator, one steam turbine generator, one heat recovery steam generator, and associated auxiliaries. Each power train will operate independently from the other for increased plant reliability and operating flexibility.

The plant will be controlled from a central control room located in an administration building constructed near the main power block. Each power train will be independently operated from this central control room.

Q: Does this conclude your direct testimony?

A: Yes, it does.

George A. Lehner
93 Cambridge Avenue
Pittsfield, MA 01201
(413-443-0214)

Synopsis

Professional experienced in construction, operation and maintenance of power generation and transmission systems. Experienced in gas turbine combined cycle, large pulverized and CFB coal, fuel oil, nuclear, and small hydro facilities.

Work Experience

PG&E Generating Company, Pittsfield, Massachusetts. Position: **Director, Plant Operations-Northeast.**

Responsible to provide oversight direction to multiple gas turbine combined cycle cogeneration projects ranging from 165 to 350 MW. Also served as operations lead on new project development teams for combined cycle projects ranging from 800 to 1,080 MW.

US Generating Company, Pittsfield, Massachusetts. Position: **General Manager.**

P&L responsibility for a 165 MW gas turbine combined cycle cogeneration project. Activities include development of annual and long-term business plans and strategies, management of operation and maintenance activities, power sales, steam sales transmission and other project agreements. Prior to commercial operation managed EPC contractor, start-up, and mobilization of operations forces. Represent the company in numerous community activities and business service organizations. Also served on the transition team for the NEES acquisition, the first major utility asset purchase in the US.

Colorado Ute Electric Association, Montrose, Colorado. Position: **Manager.**

Extensive utility experience managing construction and initial operation of three 400 MW coal units, the world's first 110 MW CFB unit, 345 kV transmission systems and small hydro units. Positions held included Mgr. of Construction, Mgr. of Civil Engineering, Mgr. Contract Administration, and Supervisor of Budgets and Project Schedules.

Bechtel Power Corp., San Francisco, California. Position: **Civil Field Engineer.**

Civil field engineer assigned to construction of large coal, oil, and nuclear power projects. Included one year experience as a field cost engineer.

Education

- BS: Colorado State University – Industrial Construction Management (Civil Engineering with Business Management Minor)
- MBA: University of Massachusetts
- Diploma: Jefferson High School, Edgewater, Colorado

Professional Associations

- North American GT24 Users Group – Chairman 1999
- NEPOOL Regional Transmission Planning Committee 1997-1998
- Berkshire County Chamber of Commerce – 1989 to Present
- Rotary International – 1992 to Present (Secretary 1995 &1996)
- Hospice Care in the Berkshires – Board Member – 1993 to 1998
- Northeast Frame 6 Users Group – 1989 to Present (Cofounder, Chairman 1992/1993)
- Allendale Elementary School Business Partnership – 1989 to 1999 (Steering Committee Chairman)
- Panelist – Colorado PUC Clean Coal Technology Forum - 1988
- Colorado Governor's Clean Coal Technology Committee - 1988/1989

Published Technical Papers

- "Circulating Fluidized Bed Combustion – A viable Clean Coal Technology" Presented at National Coal Symposium.

- "Repowering and Uprating of the Nucla Station Utilizing Circulating Fluidized Bed Combustion". Presented at EPRI's 1989 International Conference on Producing Electricity in the 21st Century.

Personal

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